

Volume 2 – Design Criteria

Contents

Division 11 – Project Design Criteria

Chapter 1100 Design Matrix Procedures

- 1100.01 General
- 1100.02 Selecting a Design Matrix
- 1100.03 Using a Design Matrix

Chapter 1110 Minor Operational Enhancement Projects

- 1110.01 General
- 1110.02 References
- 1110.03 Definitions
- 1110.04 Minor Operational Enhancement Matrix Procedures
- 1110.05 Selecting a Minor Operational Enhancement Matrix
- 1110.06 Project Type
- 1110.07 Using a Minor Operational Enhancement Matrix
- 1110.08 Project Approval
- 1110.09 Documentation

Chapter 1120 Basic Design Level

- 1120.01 General
- 1120.02 Basic Design Level
- 1120.03 Documentation

Chapter 1130 Modified Design Level

- 1130.01 General
- 1130.02 Design Speed
- 1130.03 Alignment
- 1130.04 Roadway Widths
- 1130.05 Cross Slopes
- 1130.06 Sideslopes
- 1130.07 Bike and Pedestrian
- 1130.08 Bridges
- 1130.09 Intersections
- 1130.10 Documentation

Chapter 1140 Full Design Level

- 1140.01 General
- 1140.02 References
- 1140.03 Definitions
- 1140.04 Functional Classification
- 1140.05 Terrain Classification
- 1140.06 Geometric Design Data
- 1140.07 Design Speed
- 1140.08 Traffic Lanes
- 1140.09 Shoulders
- 1140.10 Medians
- 1140.11 Curbs
- 1140.12 Parking
- 1140.13 Pavement Type
- 1140.14 Structure Width
- 1140.15 Right of Way Width

- 1140.16 Grades
- 1140.17 Fencing
- 1140.18 Traffic Signal Control, Illumination, and Intelligent Transportation Systems (ITS)
- 1140.19 Documentation

Chapter 1150 Context and Modally Integrated Design – Main Streets

- 1150.01 Background and Intent
- 1150.02 Main Street Context Considerations
- 1150.03 Community Design Vision – Process Before Design
- 1150.04 Main Street Segment Cross-Section Zones
- 1150.05 Design Guidance and Considerations for Main Street Contexts
- 1150.06 Maintenance Elements, Planning, and Considerations
- 1150.07 Retrofitting Main Street Segments
- 1150.08 Documentation Support
- 1150.09 References

Division 12 – Geometrics

Chapter 1210 Geometric Plan Elements

- 1210.01 General
- 1210.02 References
- 1210.03 Definitions
- 1210.04 Horizontal Alignment
- 1210.05 Distribution Facilities
- 1210.06 Number of Lanes and Arrangement
- 1210.07 Pavement Transitions
- 1210.08 Procedures
- 1210.09 Documentation

Chapter 1220 Geometric Profile Elements

- 1220.01 General
- 1220.02 References
- 1220.03 Vertical Alignment
- 1220.04 Coordination of Vertical and Horizontal Alignments
- 1220.05 Airport Clearance
- 1220.06 Railroad Crossings
- 1220.07 Procedures
- 1220.08 Documentation

Chapter 1230 Geometric Cross Section

- 1230.01 General
- 1230.02 References
- 1230.03 Definitions
- 1230.04 Roadways
- 1230.05 Medians and Outer Separations
- 1230.06 Roadsides
- 1230.07 Roadway Sections
- 1230.08 Documentation

Chapter 1240 Turning Roadways

- 1240.01 General
- 1240.02 References
- 1240.03 Definitions
- 1240.04 Turning Roadway Widths
- 1240.05 Documentation

Chapter 1250 Superelevation

- 1250.01 General
- 1250.02 References
- 1250.03 Definitions
- 1250.04 Superelevation Rate Selection
- 1250.05 Existing Curves
- 1250.06 Turning Movements at Intersections
- 1250.07 Runoff for Highway Curves
- 1250.08 Runoff for Ramp Curves
- 1250.09 Documentation

Chapter 1260 Sight Distance

- 1260.01 General
- 1260.02 References
- 1260.03 Stopping Sight Distance
- 1260.04 Passing Sight Distance
- 1260.05 Decision Sight Distance
- 1260.06 Documentation

Chapter 1270 Auxiliary Lanes

- 1270.01 General
- 1270.02 References
- 1270.03 Definitions
- 1270.04 Climbing Lanes
- 1270.05 Passing Lanes
- 1270.06 Slow-Moving Vehicle Turnouts
- 1270.07 Shoulder Driving for Slow Vehicles
- 1270.08 Emergency Escape Ramps
- 1270.09 Chain-Up and Chain-Off Areas
- 1270.10 Documentation

Division 13 – Intersections and Interchanges**Chapter 1300 Intersection Control Type**

- 1300.01 General
- 1300.02 References
- 1300.03 Intersection Control Objectives
- 1300.04 Common Types of Intersection Control
- 1300.05 Design Vehicle Selection
- 1300.06 Procedures
- 1300.07 Documentation

Chapter 1310 Intersections

- 1310.01 General
- 1310.02 References
- 1310.03 Design Considerations
- 1310.04 Design Elements
- 1310.05 U-Turns
- 1310.06 Intersection Sight Distance
- 1310.07 Signing and Delineation
- 1310.08 Procedures
- 1310.09 Documentation

Chapter 1320 Roundabouts

- 1320.01 General
- 1320.02 References
- 1320.03 Roundabout Types
- 1320.04 Capacity Analysis
- 1320.05 Geometric Design
- 1320.06 Pedestrians
- 1320.07 Bicycles
- 1320.08 Signing and Pavement Marking
- 1320.09 Illumination
- 1320.10 Road Approach, Parking, and Transit Facilities
- 1320.11 Approvals
- 1320.12 Documentation

Chapter 1330 Traffic Control Signals

- 1330.01 General
- 1330.02 References
- 1330.03 Definitions
- 1330.04 Procedures
- 1330.05 Signal Warrants
- 1330.06 Conventional Traffic Signal Design
- 1330.07 Documentation

Chapter 1340 Driveways

- 1340.01 General
- 1340.02 References
- 1340.03 Design Considerations
- 1340.04 Driveway Design Templates
- 1340.05 Sidewalks
- 1340.06 Driveway Sight Distance
- 1340.07 Stormwater and Drainage
- 1340.08 Mailboxes
- 1340.09 Documentation

Chapter 1350 Railroad Grade Crossings

- 1350.01 General
- 1350.02 References
- 1350.03 Plans
- 1350.04 Traffic Control Systems
- 1350.05 Nearby Roadway Intersections
- 1350.06 Pullout Lanes
- 1350.07 Crossing Surfaces
- 1350.08 Crossing Closure
- 1350.09 Traffic Control During Construction and Maintenance
- 1350.10 Railroad Grade Crossing Petitions and WUTC Orders
- 1350.11 Grade Crossing Improvement Projects
- 1350.12 Light Rail
- 1350.13 Documentation

Chapter 1360 Interchanges

- 1360.01 General
- 1360.02 References
- 1360.03 Definitions
- 1360.04 Interchange Design
- 1360.05 Ramps
- 1360.06 Interchange Connections
- 1360.07 Ramp Terminal Intersections at Crossroads
- 1360.08 Interchanges on Two-Lane Highways
- 1360.09 Interchange Plans for Approval
- 1360.10 Documentation

Chapter 1370 Median Crossovers

- 1370.01 General
- 1370.02 Analysis
- 1370.03 Design
- 1370.04 Plan Updates and Approvals
- 1370.05 Documentation

Division 14 – HOV and Transit**Chapter 1410 High-Occupancy Vehicle Facilities**

- 1410.01 General
- 1410.02 References
- 1410.03 Definitions
- 1410.04 Preliminary Design and Planning
- 1410.05 Operations
- 1410.06 Design Criteria
- 1410.07 Documentation

Chapter 1420 HOV Direct Access

- 1420.01 General
- 1420.02 References
- 1420.03 Definitions
- 1420.04 HOV Access Types and Locations
- 1420.05 Direct Access Geometrics
- 1420.06 Passenger Access
- 1420.07 Traffic Design Elements
- 1420.08 Documentation

Chapter 1430 Transit Facilities

- 1430.01 General
- 1430.02 References
- 1430.03 Definitions
- 1430.04 Park & Ride Lots
- 1430.05 Transfer/Transit Centers
- 1430.06 Bus Stops and Pullouts
- 1430.07 Passenger Amenities
- 1430.08 Roadway Design and Design Vehicle Characteristics
- 1430.09 Intersection Radii
- 1430.10 Universal Access
- 1430.11 Documentation

Division 15 – Pedestrian and Bicycle Facilities

Chapter 1510 Pedestrian Facilities

- 1510.01 General
- 1510.02 References
- 1510.03 Definitions
- 1510.04 Policy
- 1510.05 ADA Requirements by Project Type
- 1510.06 Pedestrian Circulation Paths
- 1510.07 Pedestrian Access Routes (PARs)
- 1510.08 Sidewalks
- 1510.09 Curb Ramps
- 1510.10 Crosswalks
- 1510.11 Raised Medians/Traffic Islands
- 1510.12 Pedestrian Pushbuttons at Signals
- 1510.13 At-Grade Railroad Crossings
- 1510.14 Pedestrian Grade Separations (Structures)
- 1510.15 Other Pedestrian Facilities
- 1510.16 Illumination and Signing
- 1510.17 Work Zone Pedestrian Accommodation
- 1510.18 Documentation

Chapter 1515 Shared-Use Paths

- 1515.01 General
- 1515.02 References
- 1515.03 Definitions
- 1515.04 Shared-Use Path Design – The Basics
- 1515.05 Intersections and Crossings Design
- 1515.06 Grade Separation Structures
- 1515.07 Signing, Pavement Markings, and Illumination
- 1515.08 Restricted Use Controls
- 1515.09 Documentation

Chapter 1520 Roadway Bicycle Facilities

- 1520.01 General
- 1520.02 References
- 1520.03 Definitions
- 1520.04 Facility Selection
- 1520.05 Project Requirements
- 1520.06 Shared-Use Path Design
- 1520.07 Shared Roadway Bicycle Facility Design
- 1520.08 Signed Shared Bicycle Roadway Design
- 1520.09 Bicycle Lane Design
- 1520.10 Documentation

Division 16 – Roadside Safety Elements

Chapter 1600 Roadside Safety

- 1600.01 General
- 1600.02 References
- 1600.03 Clear Zone
- 1600.04 Features to Be Considered for Mitigation
- 1600.05 Median Considerations
- 1600.06 Other Roadside Safety Features
- 1600.07 Documentation

Chapter 1610 Traffic Barriers

- 1610.01 General
- 1610.02 References
- 1610.03 Definitions
- 1610.04 Project Criteria
- 1610.05 Barrier Design
- 1610.06 Beam Guardrail
- 1610.07 Cable Barrier
- 1610.08 Concrete Barrier
- 1610.09 Special-Use Barriers
- 1610.10 Bridge Traffic Barriers
- 1610.11 Other Barriers
- 1610.12 Documentation

Chapter 1620 Impact Attenuator Systems

- 1620.01 General
- 1620.02 Design Criteria
- 1620.03 Selection
- 1620.04 Impact Attenuator Systems
- 1620.05 Documentation

Division 17 – Roadside Facilities**Chapter 1710 Safety Rest Areas and Traveler Services**

- 1710.01 General
- 1710.02 References
- 1710.03 Definitions
- 1710.04 Safety Rest Area Project Team
- 1710.05 Location, Access, and Site Design
- 1710.06 Buildings
- 1710.07 Utilities
- 1710.08 Documentation

Chapter 1720 Weigh Sites

- 1720.01 General
- 1720.02 Definitions
- 1720.03 Planning, Development, and Responsibilities
- 1720.04 Permanent Facilities
- 1720.05 Portable Facilities
- 1720.06 Shoulder Sites
- 1720.07 Federal Participation
- 1720.08 Procedures
- 1720.09 Documentation

Glossary

1100-1	Design Matrix Selection Guide
1100-2	Design Matrix 1: Interstate Routes (Main Line)
1100-3	Design Matrix 2: Interstate Interchange Areas
1100-4	Design Matrix 3: Main Line NHS Routes (Except Interstate)
1100-5	Design Matrix 4: Interchange Areas, NHS (Except Interstate), and Non-NHS
1100-6	Design Matrix 5: Main Line Non-NHS Routes
1100-7	Design Matrix Notes
1110-1	Minor Operational Enhancement Matrix Selection Guide
1110-2	Minor Operational Enhancement Matrix 1: Interstate and NHS Freeway Routes
1110-3	Minor Operational Enhancement Matrix 2: NHS Nonfreeway Routes
1110-4	Minor Operational Enhancement Matrix 3: Non-NHS Routes
1110-5	Q Project Design Summary/Approval Template
1110-6	Refuge Lane for T-Intersections on Two-Lane Highways
1130-1	Vacant
1130-2	Stopping Sight Distance: Modified Design Level
1130-3	Minimum Crest Vertical Curve Length: Modified Design Level
1130-4	Minimum Superelevation: Modified Design Level
1130-5	Side Friction Factor
1130-6	One-Way Roadway and Ramp Turning Roadway Widths: Modified Design Level
1130-7	Design Vehicles: Modified Design Level
1130-8	Evaluation for Stopping Sight Distance for Crest Vertical Curves: Modified Design Level
1130-9a	Evaluation for Stopping Sight Distance for Horizontal Curves: Modified Design Level
1130-9b	Evaluation for Stopping Sight Distance Obstruction for Horizontal Curves: Modified Design Level
1130-10	Multilane Highways and Bridges: Modified Design Level
1130-11	Two-Lane Highways and Bridges: Modified Design Level
1130-12a	Minimum Total Roadway Widths for Two-Lane Two-Way Highway Curves: Modified Design Level
1130-12b	Minimum Total Roadway Widths for Two-Lane Two-Way Highway Curves: Modified Design Level, Based on the Delta Angle
1130-13	Main Line Roadway Sections: Modified Design Level
1130-14	Ramp Roadway Sections: Modified Design Level
1140-1	Vacant
1140-2	Minimum Shoulder Width
1140-3	Shoulder Width for Curbed Sections in Urban Areas
1140-4	Median Width
1140-5	Geometric Design Data: Interstate

1140-6	Geometric Design Data: Principal Arterial
1140-7	Geometric Design Data: Minor Arterial
1140-8	Geometric Design Data: Collector
1140-9	Geometric Design Data: Urban Managed Access Highways
1150-1	City and State Responsibilities and Jurisdictions
1150-2	Potential Main Street Cross Section
1150-3	Streetside on 4 th Ave, Olympia, WA
1150-4	Potential Main Street Cross Section
1150-5	Streetside Swale, Portland, OR
1150-6	Curb Extension With Angled Parking: Olympia, City Hall
1150-7	Bike Lane With On-Street Bike Parking, Portland, OR
1150-8	Potential Main Street Cross Section
1150-9	Design Data: Main Street Context
1150-10	Speed Transition Segment
1150-11	Geometric Traffic Calming Treatments and Considerations
1150-12	Roadside and Pavement-Oriented Traffic Calming Treatments
1150-13	Curb Extension Retrofit With Drain Gate, Olympia, WA
1150-14	Potential Main Street Cross Section
1150-15	Parklet on 5th Ave, Olympia, WA
1210-1	Maximum Angle Without Curve
1210-2a	Alignment Examples
1210-2b	Alignment Examples
1210-2c	Alignment Examples
1220-1	Grade Length
1220-2a	Coordination of Horizontal and Vertical Alignments
1220-2b	Coordination of Horizontal and Vertical Alignments
1220-2c	Coordination of Horizontal and Vertical Alignments
1220-3	Grading at Railroad Crossings
1230-1	Divided Highway Roadway Sections
1230-2	Undivided Multilane Highway Roadway Sections
1230-3	Two-Lane Highway Roadway Sections
1230-4a	Ramp Roadway Sections
1230-4b	Ramp Roadway Sections
1230-5a	Shoulder Details
1230-5b	Shoulder Details
1230-6a	Divided Highway Median Sections
1230-6b	Divided Highway Median Sections
1230-6c	Divided Highway Median Sections
1230-7a	Roadway Sections in Rock Cuts: Design A

1230-7b	Roadway Sections in Rock Cuts: Design B
1230-8	Roadway Sections With Stepped Slopes
1230-9a	Bridge End Slopes
1230-9b	Bridge End Slopes
1240-1a	Traveled Way Width for Two-Lane Two-Way Turning Roadways
1240-1b	Traveled Way Width for Two-Lane Two-Way Turning Roadways: Based on the Delta Angle
1240-2a	Traveled Way Width for Two-Lane One-Way Turning Roadways
1240-2b	Traveled Way Width for Two-Lane One-Way Turning Roadways: Based on the Delta Angle
1240-3a	Traveled Way Width for One-Lane Turning Roadways
1240-3b	Traveled Way Width for One-Lane Turning Roadways: Based on the Delta Angle, Radius on Outside Edge of Traveled Way
1240-3c	Traveled Way Width for One-Lane Turning Roadways: Based on the Delta Angle, Radius on Inside Edge of Traveled Way
1250-1	Minimum Radius for Normal Crown Section
1250-2	Minimum Radius for Existing Curves
1250-3	Side Friction Factor
1250-4a	Superelevation Rates (10% Max)
1250-4b	Superelevation Rates (8% Max)
1250-4c	Superelevation Rates (6% Max)
1250-5	Superelevation Rates for Intersections and Low-Speed Urban Roadways
1250-6a	Superelevation Transitions for Highway Curves
1250-6b	Superelevation Transitions for Highway Curves
1250-6c	Superelevation Transitions for Highway Curves
1250-6d	Superelevation Transitions for Highway Curves
1250-6e	Superelevation Transitions for Highway Curves
1250-7a	Superelevation Transitions for Ramp Curves
1250-7b	Superelevation Transitions for Ramp Curves
1260-1	Design Stopping Sight Distance
1260-2	Design Stopping Sight Distance on Grades
1260-3	Stopping Sight Distance on Grades
1260-4	Stopping Sight Distance: Crest Vertical Curves
1260-5	Sight Distance: Crest Vertical Curve
1260-6	Stopping Sight: Distance for Sag Vertical Curves
1260-7	Sight Distance: Sag Vertical Curve
1260-8	Horizontal Stopping Sight Distance
1260-9	Sight Distance: Horizontal Curves
1260-10	Sight Distance: Overlapping Horizontal and Crest Vertical Curves
1260-11	Existing Stopping Sight Distance

1260-12	Passing Sight Distance
1260-13	Passing Sight Distance: Crest Vertical Curve Calculation
1260-14	Passing Sight Distance: Crest Vertical Curves
1260-15	Decision Sight Distance
1270-1	Climbing Lane Example
1270-2a	Speed Reduction Warrant: Performance for Trucks
1270-2b	Speed Reduction Warrant Example
1270-3	Auxiliary Climbing Lane
1270-4	Passing Lane Example
1270-5	Length of Passing Lanes
1270-6	Passing Lane Configurations
1270-7	Buffer Between Opposing Passing Lanes
1270-8	Auxiliary Passing Lane
1270-9	Slow-Moving Vehicle Turnout
1270-10	Emergency Escape Ramp Example
1270-11	Emergency Escape Ramp Length
1270-12	Rolling Resistance (R)
1270-13	Typical Emergency Escape Ramp
1270-14	Chain Up/Chain Off Area
1300-1	RCUT Intersection US23, North Carolina
1300-2	Design Vehicle Types
1300-3	Minimum Intersection Design Vehicle
1310-1	Lane Alignment Taper Rate
1310-2	Ramp Terminal Intersection Details
1310-3	Median at Two-Way Ramp Terminal
1310-4	Intersection Balance Example
1310-5	Diamond Interchange With Advance Storage
1310-6	Initial Ranges for Right-Turn Corner (Simple Curve-Taper)
1310-7a	Left-Turn Storage Guidelines: Two-Lane, Unsignalized
1310-7b	Left-Turn Storage Guidelines: Four-Lane, Unsignalized
1310-8a	Left-Turn Storage Length: Two-Lane, Unsignalized (40 mph)
1310-8b	Left-Turn Storage Length: Two-Lane, Unsignalized (50 mph)
1310-8c	Left-Turn Storage Length: Two-Lane, Unsignalized (60 mph)
1310-9	Left-Turn Storage With Trucks (ft)
1310-10a	Median Channelization: Widening
1310-10b	Median Channelization: Median Width 11 ft or More
1310-10c	Median Channelization: Median Width 23 ft to 26 ft
1310-10d	Median Channelization: Median Width of More Than 26 ft
1310-10e	Median Channelization: Minimum Protected Storage

1310-10f	Median Channelization: Two-Way Left-Turn Lane
1310-11	Right-Turn Lane Guidelines
1310-12	Right-Turn Pocket and Right-Turn Taper
1310-13	Right-Turn Lane
1310-14	Acceleration Lane
1310-15a	Traffic Island Designs
1310-15b	Traffic Island Designs: Compound Curve
1310-15c	Traffic Island Designs
1310-16	U-Turn Spacing
1310-17	U-Turn Roadway
1310-18	U-Turn Median Openings
1310-19a	Sight Distance at Intersections
1310-19b	Sight Distance at Intersections
1320-1	Suggested Initial Design Ranges
1320-2	Radii-Speed Relationship
1320-3	Intersection Sight Distance
1330-1	Responsibility for Facilities
1330-2	Standard Intersection Movements and Head Numbers
1330-3	Phase Diagrams: Four-Way Intersections
1330-4	Left-Turn Lane Configuration Examples
1330-5	Vacant
1330-6a	Vacant
1330-6b	Vacant
1330-7	Decision Zone Loop Placement
1330-8	Loop Numbering Layout
1330-9	Signal Display Maximum Heights
1330-10	Signal Display Areas
1330-11a	Strain Pole and Foundation Selection Procedure
1330-11b	Strain Pole and Foundation Selection Procedure
1330-12	Strain Pole and Foundation Selection Example
1330-13	Conduit and Conductor Sizes
1330-14a	Traffic Signal Display Placements
1330-14b	Traffic Signal Display Placements
1330-14c	Traffic Signal Display Placements
1330-14d	Traffic Signal Display Placements
1330-14e	Traffic Signal Display Placements
1330-14f	Traffic Signal Display Placements
1340-1	Driveway Design Template SU-30 and Smaller
1340-2	Driveway Design Template SU-30 and Larger

1340-3	Driveway Sight Distance
1350-1	Sight Distance at Railroad Crossing
1350-2	Typical Pullout Lane at Railroad Crossing
1360-1	Basic Interchange Patterns
1360-2	Interchange Spacing
1360-3	Minimum Ramp Connection Spacing
1360-4	Ramp Design Speed
1360-5	Maximum Ramp Grade
1360-6	Ramp Widths
1360-7a	Lane Balance
1360-7b	Lane Balance
1360-8	Main Line Lane Reduction Alternatives
1360-9	Acceleration Lane Length
1360-10	Deceleration Lane Length
1360-11a	Gore Area Characteristics
1360-11b	Gore Area Characteristics
1360-12	Length of Weaving Sections
1360-13a	On-Connection: Single-Lane, Tapered
1360-13b	On-Connection: Single-Lane, Parallel
1360-13c	On-Connection: Two-Lane, Parallel
1360-13d	On-Connection: Two-Lane, Tapered
1360-14a	Off-Connection: Single-Lane, Tapered
1360-14b	Off-Connection: Single-Lane, Parallel
1360-14c	Off-Connection: Single-Lane, One-Lane Reduction
1360-14d	Off-Connection: Two-Lane, Tapered
1360-14e	Off-Connection: Two-Lane, Parallel
1360-15a	Collector-Distributor: Outer Separations
1360-15b	Collector Distributor: Off-Connections
1360-15c	Collector Distributor: On-Connections
1360-16	Loop Ramp Connections
1360-17	Temporary Ramps
1360-18	Interchange Plan
1410-1	Minimum Traveled Way Widths for Articulated Buses
1410-2	Typical HOV Lane Sections
1410-3	Roadway Widths for Two-Lane Ramps With an HOV Lane
1410-4a	Single-Lane Ramp Meter With HOV Bypass
1410-4b	Two-Lane Ramp Meter With HOV Bypass
1410-5a	Enforcement Area: One Direction Only
1410-5b	Enforcement Area: Median

1430-1	Bus Berth Designs
1430-2	Transit Center Sawtooth Bus Berth
1430-3	Bus Turnout Transfer Center
1430-4	Off-Street Transfer Center
1430-5	Minimum Bus Zone Dimensions
1430-6	Bus Stop Pullouts: Arterial Streets
1430-7	Minimum Bus Zone and Pullout After Right-Turn Dimensions
1430-8	Shelter Siting
1430-9	Typical Bus Shelter Design
1430-10	Turning Template for a 40-Foot Bus
1430-11	Turning Template for an Articulated Bus
1430-12	Intersection Design
1430-13	Cross-Street Width Occupied by Turning Vehicle for Various Angles of Intersection and Curb Radii
1430-14	Passenger Loading Pad
1510-1	Pedestrian Circulation Paths
1510-2	Relationship Between Pedestrian Circulation Paths and Pedestrian Access Routes
1510-3	Obstructed Pedestrian Access Route
1510-4	Beveling Options
1510-5	Surface Discontinuities (Noncompliant)
1510-6	Sidewalks With Buffers
1510-7	Typical Sidewalk Designs
1510-8	Typical Driveways
1510-9	Perpendicular Curb Ramp
1510-10	Perpendicular Curb Ramp Common Elements
1510-11	Parallel Curb Ramp
1510-12	Parallel Curb Ramp Common Elements
1510-13	Combination Curb Ramp
1510-14	Typical Curb Ramp Drainage
1510-15	Unmarked Crosswalks
1510-16	Marked Pedestrian Crossing
1510-17	Vacant
1510-18	Midblock Pedestrian Crossing
1510-19	Obstructed Line of Sight at Intersection
1510-20	Improved Line of Sight at Intersection
1510-21	Curb Extension Examples
1510-22	Raised Islands With Curb Ramps and Pedestrian Cut-Throughs
1510-23	Typical Pedestrian Pushbutton
1510-24	Clear Space Parallel and Forward Approach Orientation
1510-25	Accessible Pedestrian Signal Pushbutton Stations

1510-26	Pedestrian Railroad Crossings
1510-27	Pedestrian Railroad Warning Device
1510-28	Pedestrian Bridges
1510-29	Pedestrian Tunnel
1510-30	Access Ramp With Accessible Handrails
1510-31	Work Zones and Pedestrian Facilities
1515-1	Shared-Use Path
1515-2	Bicycle Design Speeds
1515-3	Two-Way Shared-Use Path: Independent Alignment
1515-4a	Two-Way Shared-Use Path: Adjacent to Roadway (≤ 35 mph)
1515-4b	Two-Way Shared-Use Path: Adjacent to Roadway (> 35 mph)
1515-4c	Two-Way Shared-Use Path: Attached to Roadway (>35 mph)
1515-5	Shared-Use Path Side Slopes and Railing
1515-6	Shared-Use Path Landing Profile
1515-7	Shared-Use Path Landing and Rest Area
1515-8	Typical Redesign of a Diagonal Midblock Crossing
1515-9	Adjacent Shared-Use Path Intersection
1515-10	Roadway Crossing Refuge Area
1515-11	Shared-Use Path Bridge and Approach Walls
1515-12	Bridge and Pedestrian Rail
1515-13	Shared-Use Path in Limited Access Corridor
1515-14a	Stopping Sight Distance for Downgrades
1515-14b	Stopping Sight Distance for Upgrades
1515-15	Minimum Lengths for Crest Vertical Curves
1515-16	Lateral Clearance for Horizontal Curves
1520-1	Bike Facility Selection
1520-2	Shared Roadway
1520-3	Signed Shared Roadway: Designated Bike Route
1520-4	Bike Lane
1520-5	Typical Urban Bike Lane Cross Sections
1520-6	Typical Bicycle/Auto Movements at Intersection of Multilane Streets
1520-7	Bike Lanes Approaching Motorists' Right-Turn-Only Lanes
1520-8a	Bicycle Crossing of Interchange Ramp
1520-8b	Bicycle Crossing of Interchange Ramp
1520-9	At-Grade Railroad Crossings
1520-10	Barrier Adjacent to Bicycle Facilities
1600-1	City and State Responsibilities and Jurisdictions
1600-2	Design Clear Zone Distance Table
1600-3	Design Clear Zone Inventory Form (# 410-026 EF)

1600-4	Recovery Area
1600-5	Design Clear Zone for Ditch Sections
1600-6	Guidelines for Embankment Barrier
1600-7	Mailbox Location and Turnout Design
1600-8	Glare Screens
1610-1	Type 7 Bridge Rail Upgrade Criteria
1610-2	Longitudinal Barrier Deflection
1610-3	Longitudinal Barrier Flare Rates
1610-4	Traffic Barrier Locations on Slopes
1610-5	Old Type 3 Anchor
1610-6	Guardrail Connections
1610-7	Concrete Barrier Shapes
1610-8	Concrete Barrier Placement Guidance: Assessing Impacts to Wildlife
1610-9	Transitions and Connections
1610-10a	Barrier Length of Need on Tangent Sections
1610-10b	Barrier Length of Need
1610-10c	Barrier Length of Need on Curves
1610-10d	W-Beam Guardrail Trailing End Placement for Divided Highways
1610-11	Beam Guardrail Post Installation
1610-12a	Beam Guardrail Terminals
1610-12b	Beam Guardrail Terminals
1610-13a	Single Cable Barrier Placement Locations on Median Slopes
1610-13b	Cable Barrier Locations on Shoulder Slopes
1610-13c	Cable Barrier Placement for Divided Highways
1610-14	Thrie Beam Rail Retrofit Criteria
1620-1a	Impact Attenuator System Comparison
1620-1b	Impact Attenuator Systems: Universal TAU II and QuadGuard Configurations
1620-2	Impact Attenuator Distance Beyond Length of Need
1710-1	WSDOT Safety Rest Area
1710-2	WSDOT's SRA Project and Programming Roles
1710-3	Additional Safety Rest Area Resources
1710-4	Roadside Facilities Level of Development
1710-5	Typical Truck Storage
1710-6	WSDOT Safety Rest Area Building – Adaptive Reuse Historic Preservation
1720-1	Truck Weigh Site: Multilane Highways
1720-2	Truck Weigh Site: Two-Lane Highways
1720-3	Vehicle Inspection Installation
1720-4	Minor Portable Scale Site
1720-5	Major Portable Scale Site

- 1720-6 Small Shoulder Site
- 1720-7 Large Shoulder Site
- 1720-8 MOU Related to Vehicle Weighing and Equipment: Inspection Facilities on State Highways